Remarks

The sole remaining rejection is directed to claims 4 and 18, and Applicant submits that this rejection is unfounded as it would be expressly prohibited by multiple provisions in the law as stated in the M.P.E.P. As addressed below, these rejections are prohibited by at least both M.P.E.P. §§ 2144.05 and 2143.01.

The final Office Action dated August 4, 2008 listed the following rejection: claims 4 and 18 stand rejected under 35 U.S.C. § 103(a) over Shiota *et al.* (U.S. Patent No. 5,879,970) in view of Joo *et al.* (U.S. Patent Pub. No. 2003/0045075). Applicant appreciates the notice that claims 5, 7, 19, 21 and 22 are allowed, but as set forth in the discussion below and without acquiescing to any rejection or averment, Applicant traverses the remaining claim rejections.

Regarding the rejection of claims 4 and 18, Applicant submits that this rejection is unfounded because it assumes that a *prima facie* § 103(a) rejection can be based on conclusory arguments that are contradicted by the cited references. The rejection of claim 4 is based on the conclusory argument that a skilled artisan would routinely experiment with temperature for achieving some unidentified optimization goal consistent with the Shiota reference. In this context, the Examiner expressly acknowledges that the asserted prior art does not expressly teach or suggest the claimed invention as a whole, which includes carrying out the steps at a temperature that is between 500°C and 600°C. To overcome this deficiency, the Examiner argues that the skilled artisan would somehow optimize the teachings of the Shiota reference by routinely experimenting with temperature range taught by the Shiota reference, which is between 350°C and 450°C. On its face, this rejection must fail because the Examiner fails to explain what the skilled artisan would be attempting to optimize. See M.P.E.P. 2144.05.

As discussed at M.P.E.P. 2144.05, the law requires that any rejection based on the conclusion of "routine optimization" be carried by evidence that there is a result-effective variable which has been recognized as useful for achieving an optimization goal already motivated by the cited art. This section of the M.P.E.P. also explains the proper use of the cases cited at page 3 of the Office Action. Such a rejection is proper only when the skilled artisan is already aware that a known parameter can be varied to achieve a recognized result. Thus, if the cited prior art does not teach that the known parameter

can be varied to achieve a recognized result, then the rejection is improper. This is explicitly set forth in M.P.E.P. 2144.05 (II) (B) ("Only Result-Effective Variables Can Be Optimized"). For the rejection presented in the instant Office Action, the Examiner has not provided any such evidence or even attempted to articulate any goal (no less one that would be consistent with the Shiota reference). Accordingly, the rejection must be withdrawn.

Moreover, the Shiota reference expressly teaches away from changing the temperature above 450°C. Generally, the Shiota reference explains that the ideal heating temperature is at or slightly above 350°C and experimentation has shown that this temperature can be as high as 450°C until serious problems ensue. For example, at columns 1-2, the Shiota reference explains that a serious problem would be encountered if its disclosed steps cannot be carried out at a temperature that exceeds 500°C (*see, e.g.*, Col. 1:66 *et seq.*) and that the whole object is to define the growing process "by controlling a substrate temperature between 350 degrees and 450 degrees in centigrade." Col. 2:33-36. Moreover, Shiota *et al.* state that they have "further confirmed" that this range of 350°C - 450°C is "critical" (Col. 4:41-44), and that substrate temperatures over 450°C cannot be withstood (Col. 7:41-44). Accordingly, in addition to there being no identified goal for such "routine optimization," the scientific evidence of record flatly contradicts the Examiner's proposition that a skilled artisan would modify the Shiota reference in any manner consistent with its teachings.

The Examiner's proposition that a skilled artisan would modify the Shiota reference is also prohibited by MPEP § 2143.01, which explains that a §103 rejection cannot be maintained when the asserted modification undermines the purpose, or the operation, of the main reference. *See, also, In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). As discussed above, the Shiota reference explains that its purpose is to define the growing process "by controlling a substrate temperature between 350 degrees and 450 degrees in centigrade." Col. 2:33-36. The proposed modification would clearly frustrate this purpose and operation by changing these critical temperatures to problematic/damaging temperatures.

The rejection of claim 18, being dependent on claim 4, must be withdrawn for the same reasons. Further, the proposed modification for the claim 18 rejection changes not

only the temperatures but also the source gases – again, for "routine optimization" toward a goal that has not been identified. These proposed modifications for the claim 18 rejection further contradict the teachings of the Shiota reference. Accordingly, the specific rationale presented for the rejection of claim 18 is also prohibited by both M.P.E.P. §§ 2144.05 and 2143.01.

Turning now to the Examiner's citation to the cases and to M.P.E.P. § 2144.07, reliance thereon is misplaced. As discussed above and also at § 2144.07, such routine experimentation arguments are applicable when the prior art teaches both the parameter and using the parameter for a known goal. For example, MPEP § 2144.07 cites *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327 (1945) as presenting such a fact set involving the selection of "a known compound to meet known requirements."

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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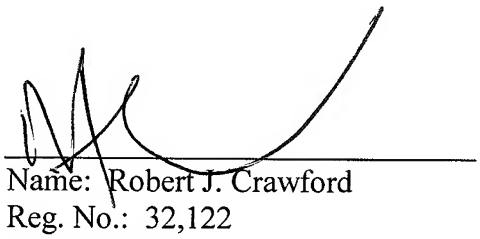
By: 

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